

REPORT

OF THE

SECRETARY OF THE TREASURY,

COMMUNICATING

A report from the Superintendent of the Coast Survey, in relation to the survey of the coast of Florida.

FEBRUARY 17, 1849.

Laid upon the table, and ordered to be printed.

TREASURY DEPARTMENT,
February 16, 1849.

SIR: I have the honor to transmit herewith a report from the superintendent of the coast survey, giving the information required by a resolution of the Senate of December 11, 1848, in relation to the survey of the coast of Florida and its keys and reefs. The department concurs in the views expressed in regard to the great importance of a speedy survey of that part of the coast, and of providing the necessary means for effecting it by the coast survey.

Very respectfully, your obedient servant,

R. J. WALKER,
Secretary of the Treasury.

HON. GEORGE M. DALLAS,
Vice President of the United States
and President of the Senate.

Report of the superintendent of the coast survey to the Secretary of the Treasury, in relation to the survey of the Florida coast, keys and reefs.

COAST SURVEY OFFICE,
Washington, February 15, 1849.

SIR: I have the honor to communicate the information which you desire, in reply to the following resolution of the Senate of the United States of December 11, 1848:

“Resolved, That the Secretary of the Treasury communicate to the Senate such information as he may possess with respect to the

expediency of a speedy survey, by the coast survey, of the reefs and coasts of south Florida, and the making of authentic charts thereof, and also an estimate of such additional or special appropriation as may be necessary therefor."

The great and increasing trade which passes the coast of Florida, and the peculiar dangers which beset the navigation from reefs but imperfectly explored, and currents scarcely at all examined, render the survey of it of special importance. Authentic records show that, on the average, every week in the year a vessel strikes upon some part of the reefs between Cape Florida and the Tortugas, and that the annual value of the stranded property is between one and two millions of dollars. The vessels which encounter these dangers belong to all parts of the United States, so that any improvements to navigation in this quarter interest the whole country.

It appears by a statement prepared by J. C. Hoyt, agent of the New York and Boston underwriters resident at Key West, and hereto appended, (A,) that during 1848 (to December 20th) forty-one vessels had been wrecked on the Florida reefs or had put into Key West in distress, of which eleven were ships, twenty-one brigs, and nine schooners. The value of the vessels and cargoes was estimated at \$1,282,000; the amount of salvage at \$125,800; and amount of expenses at \$200,000. Of these vessels seventeen are stated to have been totally lost or condemned, after striking upon the reef or being injured by stress of weather.

The dangers of the passage into the Gulf of Mexico cannot be better illustrated than by the rate of insurance upon vessels bound to the ports of the gulf. This, on the best class of vessels, is one and a half per cent., being one-half per cent. more than the insurance to Rio Janeiro, the same as that to Valparaiso, and only a quarter per cent. less than that to San Francisco or to Canton.

The charts of this part of our coast are, with the exception of detached surveys of some of the harbors, and of portions of the Florida reef, inaccurate and wanting in details. Gauld's chart, which is one of the most authentic of any extended portion of the coast, dates as far back as 1790. Lieutenant C. R. P. Rodgers, of the United States navy, who served three years in the Florida flotilla, states, in an interesting letter hereto appended, (B,) that he found the charts of both the eastern and western sides of the peninsula very inaccurate—that of the eastern coast meagre in its details, and the shore lines placed too far to the eastward; those of the western coast not giving the information required by the navigator, and the positions of points on shore being erroneous in both latitude and longitude.

An accurate survey of the Florida keys and reefs would not only bring to light the dangers of this part of the coast, enabling the navigator to avoid them, but would determine the proper positions for light-houses and other aids to navigation. There can be no doubt that channels exist by which the reef may be crossed, known only to the wreckers, the use of which might insure the safety of

many vessels and much facilitate the commerce of ports on the coast of Florida and of the adjacent States. Charts which would enable coasters to use the sheltered channels inside of the keys would be invaluable to them. Their advantages are distinctly pointed out in the letters of Lieutenants C. R. P. Rodgers (B) and James S. Biddle, (D,) which accompany this report. Many other interesting particulars, in regard to different parts of the Florida reef, are furnished in a communication from Judge Mallory, collector of the port of Key West, which is hereto appended, marked C.

A reconnoissance of the keys and main land, commenced recently by one of the assistants of the coast survey, has already shown that this section of the coast affords decided facilities for the application of the methods of the coast survey, and that the parts admit generally of such connexion that the meridian lines from the main may, if it shall be found desirable, be readily transferred to the keys due south of it, and the positions of other meridians be accurately marked on the keys to the westward. The regularity of the winds referred to by Lieutenant Rodgers may greatly facilitate the hydrography, and even permit the use of sailing vessels without too great a sacrifice of time.

Until a thorough examination is made of the coast, an estimate of cost and time of the survey must be in a great degree conjectural. The data must be taken from the rough maps and charts now existing, and from the progress of surveying in other parts of the coast.

From the best data at my command, it appears that the coast of south Florida, from Cedar keys to Cape Florida, and the keys from the Tortugas to the same cape, may be surveyed, and the hydrography of the Florida reef and of the interior sound, with part of the coast to Cape Roman, be completed for about \$160,000. This supposes in the nautical part of the survey the same aid as in the hydrography of other parts of the coast from officers of the navy, and also the aid of public vessels. This might probably be accomplished in two or two and a half years, if the appropriation were made beforehand, so as to admit of a suitable organization of the parties in advance. There is one steam vessel attached to the coast survey which would be well adapted to this service, and could be put in requisition as soon as the appropriation was available, and two others which might be used during part of the year. The small sailing vessels required would not be costly; their cost, however, is not included in the estimate made above. The centres of operation of the coast survey are now as numerous as the annual appropriation will permit, and to extend them so as to include a new one on this part of the coast would require the increase of the appropriation, or the neglect of some other portion of the coast already commenced. A speedy survey, such as is referred to in the resolution, would require a special appropriation. With a reasonable time for organization, and adequate means, I would promise a speedy, accurate execution of the work; and believe that, if a considerable appropriation were made, by directing personally

the operations and by the aid of assistants of tried skill and capacity, I can answer for their success.

Very respectfully submitted.

A. D. BACHE,
Superintendent U. S. coast survey.

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A.

WASHINGTON, January 5, 1849.

SIR: I enclose herewith "*A statement of vessels wrecked on the Florida Reef, and also of vessels put into the port of Key West, in distress, from the first day of January to the twentieth day of December, 1848,*" found in one of the New York papers.

Of the accuracy of this statement I have not the slightest doubt. It was doubtless prepared by J. C. Hoyt, the agent of the New York and Boston underwriters, resident at Key West, from the most reliable sources of information. Such a statement is transmitted at the close of each year by the agent to his principals, and, as I find this one to correspond with my own schedule, as far as the middle of September, I doubt not that Captain Hoyt has prepared it carefully and correctly.

I am, very respectfully, sir, your most obedient servant,

S. R. MALLORY.

Professor BACHE,

Superintendent, Coast Survey.

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A statement of vessels wrecked on the Florida Reef, and also of vessels put into the port of Key West, in distress, from the first day of January to the twentieth day of December, 1848.

JANUARY.

Ship Quebec, Brewster, of and from New York, for New Orleans; salvage \$4,000; amount of expenses \$4,000; vessel and cargo valued at \$100,000; struck on reef and threw overboard about \$40,000 of cargo, part of which was picked up by wreckers; vessel proceeded on her voyage.

Schooner Anowzie, Smith, from Maine, for Tortugas; salvage \$200; * amount of expenses \$225; vessel and cargo valued at \$8,000; cargo, lumber.

Brig R. Groning, Besling, of New York, from Mobile, for Tortugas; salvage \$500; * amount of expenses \$600; vessel and cargo valued at \$7,000; lost on Tortugas.

Brig Madison, Watkins, of New York, from Boston, for Apalachicola; salvage \$2,000; amount of expenses \$4,200; vessel and cargo valued at \$8,000; ashore at Key Vacas—in ballast.

Ship Apollo, —, of Bristol, from New Orleans, for London; amount of expenses \$6,500; vessel and cargo valued at \$20,000; leaking; repaired, and proceeded on her voyage.

FEBRUARY.

Ship J. Quincy, Howes, of Boston, from Mobile, for Liverpool; amount of expenses \$350; vessel and cargo valued at \$60,000; came in for more ballast.

Ship Mertoun, Hamilton, of Belfast, from New Orleans, for Liverpool; salvage \$16,400; amount of expenses \$22,000; vessel and cargo valued at \$90,000; ashore near Key Vacas; vessel sold.

MARCH.

Brig Lyra, Stover, of Bucksport, from Chagres, for New York; amount of expenses \$80; vessel and cargo valued at \$20,000; in distress—crew sick.

Brig Fomento, Garcia, of Spain, from Cuba, for Spain; salvage \$2,000; amount of expenses \$3,000; vessel and cargo valued at \$40,000; lost near Cape Florida.

APRIL.

Ship Taglioni, Rodgers, of Boston, from Havre, for New Orleans; salvage \$4,500; amount of expenses \$6,000; vessel and cargo valued at \$60,000; lost near Carysfort light-ship.

Ship Brewster, Thatcher, of Boston, from New Orleans, for Boston; salvage \$17,600; amount of expenses \$22,000; vessel and cargo valued at \$100,000; lost near Cape Florida.

Ship Euphrasia, Simpson, of Newport, from New Orleans, for Liverpool; salvage \$15,000; amount of expenses 19,500; vessel and cargo valued at \$70,000; ashore at Pickle's reef; proceeded on her voyage.

Brig Speculator, Sutherland, of Pictou, from Tobasco, for Liverpool; amount of expenses \$1,700; vessel and cargo valued at \$9,000; leaking; repaired and proceeded on her voyage.

Ship Hope, Weston, of Duxbury, from New Orleans, for Liverpool; salvage \$12,500; amount of expenses \$14,400; vessel and cargo valued at \$120,000; ashore at Alligator reef; proceeded on her voyage.

JUNE.

Brig Touro, Welsh, of New Orleans, from New York, for Vera Cruz; salvage \$7,500; amount of expenses \$9,600; vessel and cargo valued at \$80,000; ashore at Ship channel; proceeded on her voyage.

Brig Floria, Conch, of Newport, from Boston, for New Orleans; salvage \$6,000; amount of expenses \$8,500; vessel and cargo valued at \$40,000; ashore at Dry rocks; condemned and sold.

Schooner Hudson, Kimbal, of and from New York, for Matagorda; salvage \$192;* amount of expenses \$350; vessel and cargo valued at \$3,000; ashore at Sand key; ballast; condemned.

Brig B. Litchfield, —, of and from Thomaston, for Mobile; salvage \$320;* amount of expenses \$590; vessel and cargo valued at \$9,000; ashore at Sand key; lime; took fire and burned.

Brig Elizabeth, Ohl, of Philadelphia, from Cuba, for Philadelphia; salvage \$700; amount of expenses \$2,700; vessel and cargo valued at \$15,000; in distress; condemned and sold.

JULY.

Schooner Desdemona, —, of and from Baltimore, for Brazos; salvage \$500;* amount of expenses \$890; vessel and cargo valued at \$8,000; ashore at Love key; repaired.

AUGUST.

Ship Kestrel, Turner, of Belfast, from New Orleans, for Liverpool; salvage \$13,800; amount of expenses \$16,500; vessel and cargo valued at \$80,000; ashore at Cape Florida; condemned.

SEPTEMBER.

Brig Golden Eagle, Krebs, of Liverpool, from Tampico, for Nassau; salvage \$700; amount of expenses \$950; vessel and cargo valued at \$70,000; ashore at New Found harbor; repaired.

Brig Petrus, Lamartine, of France, from Cuba, for France; salvage \$943; amount of expenses \$1,500; vessel and cargo valued at \$20,000; lost near Cape Florida.

Brig Warcalla, Joslin, of Camden, from New York, for St. Marks; amount of expenses \$3,150; vessel and cargo valued at \$58,000; in distress; repaired and proceeded on her voyage.

OCTOBER.

Brig Warcalla, Joslin, of Camden, from the bay, for St. Marks; amount of expenses \$4,375; vessel and cargo valued at \$48,000; encountered a hurricane in the bay; returned dismasted; repaired.

Schooner Abigail, Jones, of Baltimore, from Jamaica, for Matanzas; amount of expenses \$4,600; vessel and cargo valued at \$9,000; dismasted and repaired.

Brig Lycoming, Gardner, of Warren, from Cienfuegos, for Philadelphia; amount of expenses \$2,100; vessel and cargo valued at \$17,000; dismasted and condemned.

Brig Peconie, Richards, of New York, from Mobile, for Pensacola; amount of expenses \$2,300; vessel and cargo valued at \$8,000; dismasted and repaired.

Ship Louisville, Burns, of Portland, from Cienfuegos, for Portland; amount of expenses \$300; vessel and cargo valued at \$8,000; dismasted and condemned.

Brig Juno, Soebey, of Norway, from Cienfuegos, for Trieste; sal-

vage \$2,800; amount of expenses \$6,500; vessel and cargo valued at \$24,000; ashore near light ship, and repaired and proceeded to New York.

NOVEMBER.

Schooner J. A. Steward, Robinson, of and from Baltimore, for Mobile; salvage \$1,200*; amount of expenses \$1,600; vessel and cargo valued at \$6,000; ashore near American shoals, and repaired.

Schooner Matthew Bird, Corson, of and from New York, for Attakapas; amount of expenses \$200; vessel and cargo valued at \$4,000; ashore on Bahama, came in leaky; temporary repairs, and proceeded.

Ship Canton, Silsby, of Bath, from New Orleans, for Liverpool; salvage \$6,300; amount of expenses \$8,500; vessel and cargo valued at \$44,000; lost on Tortugas.

Schooner Colonel de Russy, McFarland, of and from Baltimore, for Baltimore; amount of expenses \$500; vessel and cargo valued at \$8,000; leaky; condemned and sold.

Brig St. Cloud, Newton, of and from Philadelphia, for Matanzas; salvage \$2,325; amount of expenses \$4,400; vessel and cargo valued at \$18,000; ashore on Ragged Rocks; repaired and proceeded.

Schooner Charlotte, French, of Yarmouth, from Boston, for Frederick; amount of expenses \$500; vessel and cargo valued at \$2,000; leaky and repaired.

Schooner Old Zack, Meldrum, of and from Wilmington, for New Orleans; salvage \$750; amount of expenses \$1,600; vessel and cargo valued at \$6,000; ashore near Sand key; repaired and proceeded.

Brig Magdala, Dodge, of New York, from Mobile, for New York; salvage \$5,000; amount of expenses \$8,000; vessel and cargo valued at \$21,000; ashore near Indian key; repaired and proceeded.

Brig Union, Brown, of France, from Tampico, for France; salvage \$300; amount of expenses \$600; vessel and cargo valued at \$5,000; ashore and proceeded on her voyage.

Brig Columbia, Lind, of and from New Orleans, for Boston; amount of expenses \$800; vessel and cargo valued at \$8,000; leaky; cargo sold; vessel condemned and sold.

DECEMBER.

Brig Julia, Moulton, Hall, of New Castle, from Cienfuegos, for New York; salvage \$2,700; amount of expenses \$5,000; vessel and cargo valued at \$18,000; ashore on the reef, and repaired and proceeded.

Total,	41 vessels.
Total amount of salvage,	\$125,800.
Total amount of expenses,	\$200,060.
Total amount of vessels and cargo,	\$1,282,000.

Salvages marked * were awarded by arbitration.

Letter from Lieutenant C. R. P. Rodgers, United States navy, on coast survey service, to the superintendent of the coast survey relative to the coast of Florida.

COAST SURVEY OFFICE,
Washington, December 30, 1848.

DEAR SIR: In compliance with your directions, I have made a memorandum of such information concerning the coast of Florida as I can recall without referring to my papers, which are at the north.

During the last three years of the Seminole war, I served in the flotilla co-operating with the army, and was very actively employed in cruising among the Florida reefs and "keys." I found the charts of the peninsula very inaccurate, with the single exception of Gauld's chart of the Florida reef, published in 1790, which was evidently a work of merit, and is still valuable, although important changes have taken place since its publication. This survey extends from the Tortugas to Key Rodriguez, and was ended by the death of Gauld, who, it is said, was buried on the spot where his labors terminated. I found the charts of the eastern coast meagre in their details, and the shore lines placed several miles too far to the eastward, so that, for several days, during a passage from St. Augustine to Cape Florida, the vessel's position, determined by accurate observations for latitude and longitude, when marked upon the chart, represented her as upon dry land.

The Florida reef, commencing at Cape Florida, affords a shelter from the sea, and exemption from the adverse current of the gulf stream, to those navigators who are enabled to pass inside of it on their voyage to the Gulf of Mexico. The reef may be plainly seen from the masthead, and, in fine weather, no navigator keeping a good look out need fear getting on its outer edge. Vessels of light draught, with such charts and sailing directions as the coast survey could furnish, might thread their way in safety through the sheltered channels inside the reef. Cape Florida has an excellent harbor for vessels drawing nine feet, and vessels of very much greater draught could find most valuable anchorages where they might ride out a gale in safety under the protection of many parts of this reef, now so greatly dreaded. Bahia Honda has an excellent harbor for vessels drawing eighteen feet, which might be made a valuable port of refuge. At the settlements on Indian key there is a very good roadstead, but its harbor has not more than seven feet on its bar, at the highest tide. The settlement at Key Vacas has no harbor of any value. At Knight's key, at the western end of Key Vacas, there is a passage through the keys into the open bay for vessels drawing seven feet. There are several other passages through the keys, used in rough weather by the wreckers and fishermen, but they are intricate, shallow, little known, and at present useless to the ordinary navigator. A careful survey would doubtless afford many valuable discoveries.

From Cape Sable to Cape Roman the coast is formed of innumerable islands, running back from the bay to the everglades. These keys are generally swampy, and covered with impenetrable mangrove thickets. I have never seen a chart which could be of the slightest value to a person approaching this western coast. A common school Atlas would furnish equally accurate information. The latitudes and longitudes of places are curiously erroneous, but, with the exception of a dangerous shoal running from Cape Roman several miles southerly, the coast is clear, and the lead is a safe guide. The shoal water extends a long way from the shore, and the bottom is chiefly of soft mud. To the northward of Cape Roman, vessels may run closer to the shore, the lead being a safe pilot.

To the northward of Tampa some dangers exist; but I found it difficult to get any reliable information, though many persons pretended to much knowledge on very slender grounds.

During my service in Florida the charts in my possession were of no use whatever, and it was a source of mortifying surprise that a part of our coast should be as inaccurately represented as any of the remote parts of Australia. To survey in the summer would only be rendered difficult by the swarms of mosquitos, which would in some degree disable the most zealous. The winter climate is the best I have encountered in any part of the world, and the regular winds would enable the surveyor to arrange and execute the hydrographical work with great order and facility. There would be very, very few objects found upon which to observe, and the coast in many parts will prove destitute of points easily recognised.

It will be necessary to receive with great caution reports of residents on the coast; for I found many to feign an intimate knowledge of localities with which they were totally unacquainted.

With great respect, I have the honor to be, your obedient servant,

C. R. P. RODGERS,
Lieutenant United States navy.

Professor BACHE,
Superintendent coast survey.

C.

Letter from S. R. Mallory, collector of the port of Key West, to the Superintendent of the Coast Survey, relative to the Florida keys and reefs.

WASHINGTON, December 28, 1848.

SIR : It affords me pleasure to submit the information alluded to in my recent conversation with yourself and the Secretary of the Treasury, and in doing so, I have taken the liberty of stating other data relative to the Florida reefs which may, perhaps, prove useful.

I deem it unnecessary to state the character and extent of the immense and increasing commerce which passes through the narrow strait between the Florida and the Cuba and Bahama shores, as the published statistics of the Treasury Department upon the subject are familiar to you. In the navigation of this passage, and particularly during the summer months, when the trade winds are light and variable, and the rapidity of the gulf stream is believed to be accelerated, vessels bound from the eastward to Cuba and the southwestern Atlantic ports are compelled to hug the Florida shore, not only to avoid the stream but to find an anchorage in calm weather, which frequently continues several days, and both on their outward and homeward voyages they keep the Florida shore aboard, regarding the iron bound coasts of Cuba and the Bahamas as most perilous. The Florida reefs, extending from Cape Florida to the Tortugas, a distance of about two hundred miles, subject to violent storms and the action of wayward currents, have always proved disastrous to navigators in that region. The number of vessels publicly known to strike upon them, including as well those extricated with as without the aid of wreckers, is not less than forty-eight per annum, or one in every seven days nearly; but it is confidently believed, from reliable sources of information possessed by the people of the coast, that many others strike upon the reefs and get off of which no accounts are published. Twenty-two vessels, averaging about fifty tons each, are stationed at various points along the reefs, and pursue exclusively the business of relieving stranded property. Many of them are owned by the States of Connecticut and New York; they are expensively and substantially built and furnished, manned by strong crews of from ten to fifteen men, and commanded by skilful pilots, who have devoted their lives to the perilous profession of wrecking. These men are rarely heard of, and seem to be known only to those who have received assistance or life itself at their hands; and yet it is thought that few vocations are more essential to the commercial interests of our country, and that the Florida wreckers, in character and conduct, may compare favorably with any other class of seamen in the world. They are licensed by the judge of the United States district court for the southern district of Florida, under the act of Congress of the 3d of February, 1847. Their claims for salvage upon the property saved by them are adjudicated in this court, and they are held to a strict accountability, not only for the property taken into their possession but for their personal deportment towards the recipients of their services. The value of the property stranded on the reefs and carried into Key West during the present year cannot fall short of one million of dollars. During some years it far exceeds this amount, and the value of all the property which strikes upon them may be safely estimated at two millions of dollars per annum. During the year 1846 there were fifty-five vessels stranded and carried to Key West in distress, the aggregate value of which with their cargoes was \$1,624,800. The amount of salvage decreed to the wreckers was \$108,992, and the total amount of expenditures at Key West by these vessels and cargoes was

\$213,423. Of these fifty-five vessels eleven were owned in New-York, twelve in Maine, seven in Massachusetts, two in Connecticut, two in Rhode Island, five in Pennsylvania, one in South Carolina, five in Florida, and ten in foreign countries. For additional information on this point I refer you to Senate Doc. No. 242, first session, 30th Congress, 1848.

The portion of these reefs which has proved most destructive to commerce, is that which lies between Indian key and Key Biscayne, a distance of about eighty miles. No American survey has ever been made of it, and that of Gauld, if I am not mistaken, embraced only a part of Carysfort reef. A great extent of dangerous shoals and sunken rocks is commonly known among the wreckers as Carysfort reef, but distinct names are given to individual parts of it; as Great and little Coach reef, Leadbetter reef, &c., &c., Gauld's survey, with Blunt's compilation of it, and a few old Spanish charts furnish the sum of our information upon this subject; and no mariner of ordinary prudence would attempt to cross the Florida reef with these only as his guide. But these reefs can be safely crossed by large vessels at various points, through channels known only to the wreckers. From Indian key to Key Biscayne, the entire basin of waters lying between the reefs and the keys (a sheet about eighty miles long by from four to six wide) is smooth, and affords a good anchorage at all times; and in proof of this it may be remarked, that the Carysfort floating light, a vessel of about two hundred and fifty tons, has occupied her present station at Basin Hill bank twenty-two years, and has never parted a cable or suffered any material injury, though subjected to many heavy gales of wind and several hurricanes; and it seems somewhat remarkable, that side by side with this chain of reefs, the most dreaded on our entire seaboard, and near the margin of which thousands of vessels annually pass, there should exist one of the best roadsteads in the world, with easy ingress and egress in all ordinary weather, and that the knowledge of it should be confined to the very class of men most interested in its concealment.

Commodore Porter in one of his reports to Secretary Southard, speaking of Key West, says, "I venture to predict, that the first naval contest in which our country shall ever be engaged, will be in the vicinity of this very island;" and with his usual prescience, he doubtless had in view the vast commerce of the Mississippi valley, flowing in a constant stream through the straits of Florida, and the competitors for its profits crowded together between those watch towers that command and look down upon it—the Tortugas and the Moro Castle at Havana. With our present limited knowledge of this part of our own coast, an American fleet charged with the protection of our commerce in a maritime war, could find the perils of this strait constantly circumventing its movements and greatly subtracting from its efficiency; whereas, there cannot exist a doubt that a proper examination and survey of it would result in familiarizing our officers with good harbors and roadsteads throughout its whole extent.

It has been happily said, that the mouth of the Mississippi is not at the Balize, but at the Tortugas; and the propriety of this remark appears particularly striking to an observer stationed on the tower of the Tortugas light, from whence fifty or sixty vessels, heavily freighted, may sometimes be taken in at on view.

During a brief examination of the northwest pass of Key West, made by Major Hartman Bache two years ago, he traced out a channel through which fourteen feet water may be carried at low, and sixteen at high water. This enabled the superintendent to place the floating light in a much more serviceable as well as secure position, nearly a mile seaward of her former birth, and disclosed a safe and easy route from the gulf, through the harbor of Key West, to the ports of Mobile, St. Marks, Tampa, Cedar keys, Apalachicola, Pensacola, New Orleans, &c.; by which a large class of trading vessels, drawing over ten feet, and less than sixteen feet may avoid the dangerous navigation of the quicksands and the Tortugas, and shorten their passage at least two days. I am convinced that the benefits conferred upon northern and western commerce, by this work alone, would justify an expenditure of ten times the amount disbursed for all Major Bache's examination of that coast.

While we have been indifferent to this subject, and contented ourselves with steering by the glimmering lights afforded by the partial examinations of others, Great Britain, with the peculiar forecast which ever distinguishes her policy, has been for twenty years exploring the seas about her American possessions, from Honduras to the Bermudas, and has extended her examinations even to a portion of our own southern coast. The hydrographical researches of Captain Barnet, royal navy, in the surveying ship *Thunder*, have been of the most minute and satisfactory character, and his charts are held in the highest esteem. A survey of the Florida reefs, combining with it, of course, accurate tidal observations, direction and force of winds, currents, &c., would doubtless afford, independent of other advantages, valuable and interesting information relative to the action of the gulf stream, and place in the hands of the practical seaman a clue to some of its most perplexing features. In connexion with this suggestion, I will remark that in the month of June last a British ship, while standing off the reef south southeast, and making, as was supposed, about five knots, went ashore (at night) on Carysfort reef, stem foremost, and that in the month of August last the current was known (and so stated in the log book of a stranded ship) to have set at the rate of four miles an hour north northwest, directly across the same reef.

Upon this great highway of commerce, where the property of every section of our Union is afloat, the object of those familiar with the peculiar perils which beset it should be not only to make the route thoroughly safe, but to remove every *excuse* for shipwrecks. This is no sectional or local question. Three-fifths of the cargoes lost on the Florida reefs come down the Mississippi river, and six-eighths of the vessels are owned in the northern and

eastern States. Of the fifty-five vessels wrecked there in eighteen hundred and forty-six, six only were owned in the southern States.

There are but three light-houses between Cape Florida and the Tortugas; and, although the lights are of the first class, and compare advantageously in brilliancy and reach with any in the world, they are insufficient to afford guides to the mariner. Excellent positions for permanent towers are found contiguous to portions of the one which require lights, particularly at Indian key, the Sister keys, and Loggerhead key. Let the channels through Florida reefs be examined and buoyed throughout, and let the coast be marked with but half the number of good lights which designate the same extent of our northeastern seaboard, and, while the benefits conferred upon our country in a military point of view will be incalculable, the number of shipwrecks on that coast will be reduced to the few that may result from violent hurricanes or other overwhelming calamity.

The harbor of the Tortugas, one of the safest and largest in the world, is now being fortified. An immense castle will occupy the entire surface of a small island, far off in the ocean, sixty miles from Key West, the nearest inhabited spot; Key West itself being one hundred and fifty miles from the nearest point of the peninsula of Florida which will be cultivated, in all probability, for the next half century. The latter island is also being fortified by a work that will mount about three hundred guns. The time will come when both of these positions, absolutely essential to the existence of a ton of American shipping in these seas, will depend, to a great extent, for their supplies, upon the peninsula of Florida. The reasons for this assertion are too plain to require argument. The entire distance from Cape Florida to Key West may be traversed by a route, perfectly smooth and safe, under all circumstances, between the keys and the main land; and with but little excavation the communication, entirely through to St. Augustine, might be opened. The propriety of this opinion will be apparent at the first glance at the map of Florida. Were an enemy's fleet blockading every outlet to the harbor of Key West, supplies could be thrown in, uninterruptedly, from the main land at all times, in perfect safety, over the route alluded to; but this route is not known to the country; no chart of it exists; and I fear not to hazard the opinion, that there are not, at this moment, five persons in the employ of the government who could, without a preliminary examination, go over it in a boat drawing two feet water.

Permit me to express the opinion that an exploration of the interior, adjoining the coast of Florida, greater than that usually pursued in our northern surveys, would produce advantageous results, as the streams which enter into the straits of Florida are navigable, and have never been particularly examined.

With great respect, I have the honor to be your obedient servant,

S. R. MALLORY.

Professor A. D. BACHE,
Superintendent coast survey.

D.

Letter from Lieutenant James S. Biddle, United States Navy, on coast survey service, to the Superintendent of the Coast Survey, relative to the Florida reefs.

WASHINGTON, January 3, 1849.

SIR: My experience of the Florida reef and coast does not suggest any more facts than I find in the papers which you already have.

I will only therefore express the opinion, that an accurate survey of the reef will develop an excellent channel for vessels of small draft of water from Cape Florida to Key West. This channel if well marked by buoys, beacons, and light-houses, would divert nearly all of our coasting vessels from the circuitous route over the Bahama banks, and induce them to pass down our own shores inside of the gulf stream.

I think, too, that it is very probable a survey will show such a channel through the keys, at Knight's key, into the Gulf of Mexico, as will materially shorten the passages of vessels bound to the west coast of Florida, Mobile and New Orleans. Knight's key is the westernmost of the group known as the Vacas keys.

Very respectfully, sir, your obedient servant,

JAMES S. BIDDLE.

Professor A. D. BACHE.

